

REMARKS

Consideration is respectfully requested.

Claims 44 through 47 are being added by this Amendment. As claims 44 and 45 both depend from claim 1, which has been indicated as being allowable, claims 44 and 45 are submitted to be allowable. Further, as claims 46 and 47 both depend from claim 17, which has been indicated as being allowable, claims 46 and 27 are submitted to also be allowable.

VERSION WITH MARKINGS TO SHOW CHANGES MADE:

In the Claims (bracketed parts deleted and underline parts added):

1 1. (Pending) A method of applying polyacrylamide (PAM) for
2 stabilizing soil particles of a land area from erosive movement
3 about the land area, the method comprising;
4 establishing a uniform mixture ratio for a mixture of PAM and water
5 to be applied to a land area;
6 calculating a total application rate for applying the mixture to the
7 land area;
8 mixing PAM with water according to the uniform mixture ratio to
9 form a mixture for application to the land area;
10 applying the mixture to a top surface of soil of the land area; and
11 terminating the application of the mixture when PAM reaches
12 sufficient depth penetration below a top surface of the soil.

1 2. (Pending) The method of claim 1 wherein the establishing
2 step includes mixing PAM and water in a ratio of about 1 part PAM
3 to between about 500 and about 5000 parts water by volume.

1 3. (Pending) The method of claim 1 wherein the establishing
2 step includes mixing PAM and water in a ratio of 1 part PAM to
3 about 1000 parts water by volume.

1 4. (Pending) The method of claim 1 additionally comprising
2 the step of determining a number of times that the mixture of the
3 uniform mixture ratio needs to be applied to the land area to achieve
4 the calculated total application rate of the PAM.

1 5. (Pending) The method of claim 1 wherein the applying step
2 comprises making a series of applications of the mixture to the
3 surface for a number of times until the application rate for the soil

4 of the land area is achieved.

1 6. (Pending) The method of claim 1 wherein the applying step
2 includes misting a portion of the total application rate of the
3 mixture onto the surface of the land area to produce a tack coat for
4 initially stabilizing topmost soil particles on the top surface of the
5 land area against soil particle movement caused by subsequent
6 mixture applications.

1 7. (Pending) The method of claim 1 wherein the applying step
2 includes continuing to apply the mixture to the surface of the soil
3 until the soil of the land area becomes saturated and stopping the
4 application of the mixture top surface becomes saturated.

1 8. (Pending) The method of claim 7 additionally comprising
2 detecting saturation of the soil when the mixture accumulates on the
3 surface rather than being absorbed into the ground and the mixture
4 on the top surface reflects ambient light.

1 9. (Pending) The method of claim 8 wherein the applying step
2 includes waiting for a time period after detection of saturation such
3 that the mixture is able to penetrate the ground below the surface,
4 wherein the time period comprises the time required for any puddles
5 of the mixture on the top surface of the soil to be absorbed into the
6 soil below the top surface.

1 10. (Pending) The method of claim 9 wherein the waiting step
2 is conducted for a time period that is less than the time required for
3 the top surface of the soil to dry.

1 11. (Pending) The method of claim 1 wherein the applying
2 step includes the step of directing a spray of the mixture onto the
3 top surface of the soil of the land area from at least four directions,

4 each of the directions being oriented at about 90 degrees to at least
5 two of the other directions.

1 12. (Pending) The method of claim 11 wherein the applying
2 step includes the step of directing a spray of the mixture at a
3 substantially perpendicular angle downward onto the top surface of
4 the soil of the land area, wherein the direction of the substantially
5 perpendicular spray varies less than about 15 degrees measured from
6 an axis perpendicular to the surface of the soil.

1 13. (Pending) The method of claim 1 additionally comprising
2 testing the extent of penetration of the PAM below the top surface
3 of the soil of the land area.

1 14. (Pending) The method of claim 1 wherein the testing step
2 includes removing a core sample of the soil from the land area.

1 15. (Pending) The method of claim 1 additionally comprising
2 the step of comparing the depth penetration of the PAM below the
3 top surface of the soil of the land area to a set of minimum depth
4 penetration values based upon the general slope of the land area to
5 determine the minimum depth penetration needed for the land area
6 being treated before terminating application of the mixture to the
7 land area;

8 wherein if the general slope of the land area is between
9 substantially level and a general slope of 4 to 1, inclusive, the
10 sufficient depth penetration is a minimum of about 1.3 inches;

11 wherein if the general slope of the land area is about 3 to 1,
12 the sufficient depth penetration is a minimum of about 1.5 inches;

13 wherein if the general slope of the land area is about 2 to 1,
14 the sufficient depth penetration is a minimum of about 2 inches;

15 wherein if the general slope of the land area is about 1.5 to 1,

16 the sufficient depth penetration is a minimum of about 2.5 inches;
17 and

18 wherein if the general slope of the land area is about 1 to 1 or
19 steeper, the sufficient depth penetration is a minimum of about 3
20 inches.

1 16. (Pending) The method of claim 15 additionally comprising
2 exceeding the total application rate calculated if the sufficient
3 minimum depth penetration is not achieved through application of
4 mixture to the soil at the total application rate.

1 17. (Pending) A method of applying polyacrylamide (PAM)
2 for stabilizing soil particles of a land area from erosive movement
3 about the land area, the method comprising;
4 establishing a uniform mixture ratio for a mixture of PAM and water
5 to be applied to a land area;
6 calculating a total application rate for applying the mixture to the
7 land area;
8 mixing PAM with water according to the uniform mixture ratio to
9 form a mixture for application to the land area; and
10 applying the mixture to a top surface of soil of the land area by
11 misting a top surface of the land area with the mixture for
12 producing a tack coat of the PAM for initially stabilizing
13 topmost soil particles on the top surface of the land area
14 against soil particle movement caused by any subsequent
15 mixture applications.

1 18. (Pending) The method of claim 17 additionally comprising
2 the step of determining a number of times that the mixture of the
3 uniform mixture ratio needs to be applied to the land area to achieve
4 the calculated total application rate of the PAM.

1 19. (Pending) The method of claim 18 wherein the applying
2 step comprises making a series of applications of the mixture to the
3 soil according to the number of times determined to achieve the
4 total application rate for the soil of the land area.

1 20. (Pending) The method of claim 17 wherein the applying
2 step includes continuing to apply the mixture to the surface of the
3 soil until the soil of the land area becomes saturated and stopping
4 the application of the mixture top surface becomes saturated.

1 21. (Pending) The method of claim 20 additionally comprising
2 detecting saturation of the soil when the mixture accumulates on the
3 surface rather than being absorbed into the ground and the mixture
4 on the top surface reflects ambient light.

1 22. (Pending) The method of claim 21 wherein the applying
2 step includes waiting for a time period after detection of saturation
3 such that the mixture is able to penetrate the ground below the
4 surface, wherein the time period comprises the time required for any
5 puddles of the mixture on the top surface of the soil to be absorbed
6 into the soil below the top surface.

1 23. (Pending) The method of claim 22 wherein the waiting
2 step is conducted for a time period that is less than the time
3 required for the top surface of the soil to dry.

1 24. (Pending) The method of claim 17 wherein the applying
2 step includes the step of directing a spray of the mixture onto the
3 top surface of the soil of the land area from at least four directions,
4 each of the directions being oriented at about 90 degrees to at least
5 two of the other directions.

1 25. (Pending) The method of claim 17 wherein the applying

2 step includes the step of directing a spray of the mixture at a
3 substantially perpendicular angle downward onto the top surface of
4 the soil of the land area, wherein the direction of the substantially
5 perpendicular spray varies less than about 15 degrees measured from
6 an axis perpendicular to the surface of the soil.

1 26. (Pending) The method of claim 17 additionally comprising
2 testing the extent of penetration of the PAM below the top surface
3 of the soil of the land area.

1 27. (Pending) The method of claim 17 wherein the testing
2 step includes removing a core sample of the soil from the land area.

1 28. (Pending) The method of claim 17 additionally comprising
2 the step of terminating the application of the mixture when PAM
3 penetrates below a top surface of the soil.

1 29. (Pending) The method of claim 28 additionally comprising
2 comparing the depth penetration of the PAM below the top surface
3 of the soil of the land area to a set of minimum depth penetration
4 values based upon the general slope of the land area to determine
5 the minimum depth penetration needed for the land area being
6 treated before terminating application of the mixture to the land
7 area;

8 wherein if the general slope of the land area is between
9 substantially level and a general slope of 4 to 1, inclusive, the
10 sufficient depth penetration is a minimum of about 1.3 inches;

11 wherein if the general slope of the land area is about 3 to 1,
12 the sufficient depth penetration is a minimum of about 1.5 inches;

13 wherein if the general slope of the land area is about 2 to 1,
14 the sufficient depth penetration is a minimum of about 2 inches;

15 wherein if the general slope of the land area is about 1.5 to 1,

16 the sufficient depth penetration is a minimum of about 2.5 inches;
17 and

18 wherein if the general slope of the land area is about 1 to 1 or
19 steeper, the sufficient depth penetration is a minimum of about 3
20 inches.

1 30. (Pending) The method of claim 17 wherein the
2 establishing step includes mixing PAM and water in a ratio of about
3 1 part PAM to between about 500 and about 5000 parts water by
4 volume.

1 31. (Pending) The method of claim 17 additionally comprising
2 the step of considering the relative compaction of the soil of the
3 land area, and increasing a number of times of applications of the
4 mixture if the top surface of the soil of the land area has a
5 compacted crust for loosening the compaction of the soil to enhance
6 the penetration of subsequent applications of the mixture into the
7 soil.

Claims 32 through 38 of the application have been previously
cancelled in the Examiner's Amendment, without prejudice.

1 39. (Pending) A method of applying polyacrylamide (PAM)
2 for stabilizing soil particles of a land area from erosive movement
3 about the land area, the method comprising;
4 mixing PAM with water to form a mixture for application to the land
5 area;
6 applying the mixture to a top surface of soil of the land area until
7 the soil of the land area becomes saturated, and stopping the
8 application of the mixture when the top surface becomes
9 saturated and the mixture accumulates on the surface rather
10 than being absorbed into the ground and the mixture on the top

11 surface reflects ambient light; and
12 terminating the application of the mixture when PAM penetrates
13 below a top surface of the soil.

1 40. (Pending) The method of claim 39 additionally
2 comprising the step of establishing a uniform mixture ratio for a
3 mixture of PAM and water to be applied to a land area, and wherein
4 the mixture formed by the mixing step has a ratio of PAM and water
5 corresponding to the uniform mixture ratio.

1 41. (Pending) The method of claim 40 additionally
2 comprising the step of calculating a total application rate for
3 applying the mixture to the land area, and additionally comprising
4 the step of determining a number of times that the mixture of the
5 uniform mixture ratio needs to be applied to the land area to achieve
6 the calculated total application rate of the PAM.

1 42. (Pending) The method of claim 39 additionally comprising
2 the step of calculating a total application rate for applying the
3 mixture to the land area, and wherein the applying step comprises
4 making a series of applications of the mixture to the surface for a
5 number of times until the application rate for the soil of the land
6 area is achieved.

Please add the following claims:

1 44. (New) The method of claim 1 wherein the establishing
2 step includes mixing PAM and water in a ratio of about 1 part PAM
3 to between about 500 and about 5000 parts water by volume;
4 additionally comprising the step of determining a number of
5 times that the mixture of the uniform mixture ratio needs to be
6 applied to the land area to achieve the calculated total application
7 rate of the PAM;

8 wherein the applying step comprises making a series of
9 applications of the mixture to the surface for a number of times
10 until the application rate for the soil of the land area is achieved;
11 wherein the applying step includes misting a portion of the
12 total application rate of the mixture onto the surface of the land
13 area to produce a tack coat for initially stabilizing topmost soil
14 particles on the top surface of the land area against soil particle
15 movement caused by subsequent mixture applications;
16 wherein the applying step includes continuing to apply the
17 mixture to the surface of the soil until the soil of the land area
18 becomes saturated and stopping the application of the mixture top
19 surface becomes saturated;
20 additionally comprising detecting saturation of the soil when
21 the mixture accumulates on the surface rather than being absorbed
22 into the ground and the mixture on the top surface reflects ambient
23 light;
24 wherein the applying step includes waiting for a time period
25 after detection of saturation such that the mixture is able to
26 penetrate the ground below the surface, wherein the time period
27 comprises the time required for any puddles of the mixture on the
28 top surface of the soil to be absorbed into the soil below the top
29 surface;
30 wherein the waiting step is conducted for a time period that is
31 less than the time required for the top surface of the soil to dry;
32 wherein the applying step includes the step of directing a
33 spray of the mixture onto the top surface of the soil of the land area
34 from at least four directions, each of the directions being oriented
35 at about 90 degrees to at least two of the other directions;
36 wherein the applying step includes the step of directing a
37 spray of the mixture at a substantially perpendicular angle
38 downward onto the top surface of the soil of the land area;

39 additionally comprising testing the extent of penetration of the
40 PAM below the top surface of the soil of the land area; and
41 wherein the testing step includes removing a core sample of
42 the soil from the land area.

1 45. (New) The method of claim 44 additionally comprising
2 the step of comparing the depth penetration of the PAM below the
3 top surface of the soil of the land area to a set of minimum depth
4 penetration values based upon the general slope of the land area to
5 determine the minimum depth penetration needed for the land area
6 being treated before terminating application of the mixture to the
7 land area;

8 wherein if the general slope of the land area is between
9 substantially level and a general slope of 4 to 1, inclusive, the
10 sufficient depth penetration is a minimum of about 1.3 inches;

11 wherein if the general slope of the land area is about 3 to 1,
12 the sufficient depth penetration is a minimum of about 1.5 inches;

13 wherein if the general slope of the land area is about 2 to 1,
14 the sufficient depth penetration is a minimum of about 2 inches;

15 wherein if the general slope of the land area is about 1.5 to 1,
16 the sufficient depth penetration is a minimum of about 2.5 inches;

17 wherein if the general slope of the land area is about 1 to 1 or
18 steeper, the sufficient depth penetration is a minimum of about 3
19 inches; and

20 additionally comprising exceeding the total application rate
21 calculated if the sufficient minimum depth penetration is not
22 achieved through application of mixture to the soil at the total
23 application rate.

1 46. (New) The method of claim 17 additionally comprising
2 the step of determining a number of times that the mixture of the
3 uniform mixture ratio needs to be applied to the land area to achieve

4 the calculated total application rate of the PAM;
5 wherein the applying step comprises making a series of
6 applications of the mixture to the soil according to the number of
7 times determined to achieve the total application rate for the soil of
8 the land area;
9 wherein the applying step includes continuing to apply the
10 mixture to the surface of the soil until the soil of the land area
11 becomes saturated and stopping the application of the mixture top
12 surface becomes saturated;
13 additionally comprising detecting saturation of the soil when
14 the mixture accumulates on the surface rather than being absorbed
15 into the ground and the mixture on the top surface reflects ambient
16 light;
17 wherein the applying step includes the step of directing a
18 spray of the mixture onto the top surface of the soil of the land area
19 from at least four directions;
20 wherein the applying step includes waiting for a time period
21 after detection of saturation such that the mixture is able to
22 penetrate the ground below the surface, wherein the time period
23 comprises the time required for any puddles of the mixture on the
24 top surface of the soil to be absorbed into the soil below the top
25 surface;
26 wherein the waiting step is conducted for a time period that is
27 less than the time required for the top surface of the soil to dry;
28 additionally comprising testing the extent of penetration of the
29 PAM below the top surface of the soil of the land area;
30 wherein the testing step includes removing a core sample of
31 the soil from the land area;
32 additionally comprising the step of terminating the application
33 of the mixture when PAM penetrates below a top surface of the soil;
34 additionally comprising comparing the depth penetration of

35 the PAM below the top surface of the soil of the land area to a set
36 of minimum depth penetration values based upon the general slope
37 of the land area to determine the minimum depth penetration needed
38 for the land area being treated before terminating application of the
39 mixture to the land area; and

40 additionally comprising the step of considering the relative
41 compaction of the soil of the land area, and increasing a number of
42 times of applications of the mixture if the top surface of the soil of
43 the land area has a compacted crust for loosening the compaction of
44 the soil to enhance the penetration of subsequent applications of the
45 mixture into the soil.

1 47. (New) The method of claim 46 wherein the establishing
2 step includes mixing PAM and water in a ratio of about 1 part PAM
3 to between about 500 and about 5000 parts water by volume;

4 wherein if the general slope of the land area is between
5 substantially level and a general slope of 4 to 1, inclusive, the
6 sufficient depth penetration is a minimum of about 1.3 inches;

7 wherein if the general slope of the land area is about 3 to 1,
8 the sufficient depth penetration is a minimum of about 1.5 inches;

9 wherein if the general slope of the land area is about 2 to 1,
10 the sufficient depth penetration is a minimum of about 2 inches;

11 wherein if the general slope of the land area is about 1.5 to 1,
12 the sufficient depth penetration is a minimum of about 2.5 inches;

13 and

14 wherein if the general slope of the land area is about 1 to 1 or
15 steeper, the sufficient depth penetration is a minimum of about 3
16 inches.

CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,



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